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DEPARTMENT OF VISITING NURSING AND SOCIAL WELFARE



IN CHARGE OF
EDNA L. FOLEY, R.N.

SOME POINTS IN CONNECTION WITH THE UNDER- LYING PRINCIPLES OF DIET IN HEALTH, AND MODIFICATIONS NECESSARY IN THE TREATMENT OF TUBERCULOSIS.

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1. AN EFFICIENT DIET in the treatment of tuberculosis is a diet that (in its total amount and relative proportion of various foodstuffs) best promotes nutrition and aids reparative processes, and accomplishes this without overburdening the digestive organs. The efficiency of the diet is further dependent upon the individualization of its total amount, and character and proportion of its constituent foodstuffs, in accordance with the state of nutrition, digestion, and other special conditions (as fever, complications, idiosyncrasies of appetite, etc.).

2. CLASSIFICATION OF FOODSTUFFS.—A. *Nitrogenous*.—Contain carbon, hydrogen, oxygen, and nitrogen.

Most important variety: Proteids.

Examples of proteids: Greater part of meat, casein of milk and cheese, more than half the bulk of eggs, vegetable albumen (in peas, beans, wheat, rice, and the like).

Chief function of proteids: To supply the necessary material for growth, development, and repair of tissues.

Partially, proteids are used to provide various forms of "energy" given out by the body (heat, mental work, muscular work); as "stores of energy," however, proteids are inferior in importance to carbohydrates and fats.

B. *Carbohydrates*.—Contain carbon, hydrogen, and oxygen. The proportion of hydrogen and oxygen is same as in water.

Varieties of carbohydrates: *a*. Starches (in cereals, potatoes, etc.).
b. Sugars (cane sugar, grape sugar, milk sugar, muscle sugar, etc.).

Chief function of carbohydrates: To supply to system "energy" necessary for heat, mental and muscular work. Part of supplied "energy" is stored in the system, to be drawn upon when needed ("stores of energy").

C. *Fats*.—Contain carbon, hydrogen, and oxygen. Less oxygen than in carbohydrates.

Examples: Fatty and oily foods.

Chief function of fats: To supply "energy" for heat, mental, and muscular work.

Fats and to a smaller extent carbohydrates are "stored" in the body and used on demand (as coal in cellars). If no such "store," tissues of the body are called upon to provide energy for heat and work. Thus, proteids are chiefly builders and repairers; carbohydrates and fats—"energy" providers and "energy" stores.

3. POTENTIAL ENERGY OF FOOD.—Potential energy of food is measured by the amount of heat which can be obtained by its complete combustion and is expressed in units of heat, or "*calories*."

Calorie.—Amount of heat required to raise the temperature of 1 lb. of water 1 degree F. (or 1 kilogram of water 1 degree C.), or, amount of "energy" required to raise 772 lbs. one foot (or 425.5 kilograms one meter).

4. CALORIC VALUE OF 3 FOODSTUFFS.—

One gramme proteid.....	4.1 calories
One gramme carbohydrates	4.1 calories
One gramme fat	9.3 calories

Carbohydrates and *fats* burn in the system *completely* to carbonic acid and water.

Proteids leave a *residue* of urea incapable of further oxidation. It is estimated that the physiologic value of proteids averages 75 per cent. of their caloric value.

5. STANDARD DIETARY FOR HEALTHY.—*a. Total Daily Amount of Food (Total Caloric Value) Needed by a Healthy Individual*.—The total amount of food needed by a healthy individual varies with the *amount of energy that is required in various occupations*; it is also influenced by other conditions, as extent of body surface, sex, age, climate, etc.

Bardswell and Chapman present the following table:

A man without muscular work (a clerk).....	2500 to 2700 calories
A man with light muscular work (house painter).....	3000 to 3500 calories
A man with moderate muscular work (carpenter).....	3500 to 4000 calories
A man with heavy muscular work (hard labor).....	4500 to 5000 calories

b. Daily Amount of Proteid Needed by Healthy Individual.—This must be sufficient for *tissue repair* and also for stimulation of cells to greater activity, thus increasing resistance of the individual to unfavorable conditions.

According to Rowntree, daily proteid requirement sufficient for the average working man is *125 grammes* in a diet representing total energy of 3500 calories.

The amount of proteid required varies of course with the waste of tissue and expenditure of energy entailed in various occupations.

c. Daily Amount of Fat and Carbohydrates Needed by a Healthy Individual.—Subtracting the caloric value of required proteid (say 125 grammes or 125 multiplied by 4.1 calories is equivalent to 512.5 calories) from total caloric value of a daily diet (say 3500 calories) we get 2987.5 calories which must be furnished by fat and carbohydrates.

In apportioning this needed caloric value to carbohydrates and fats we must bear in mind the following:

In cold countries fats are preferable to carbohydrates.

Fats are not as rapidly converted into energy as sugars and starches.

Dislike of many people for too much fat.

High percentage of fat reduces the bulk of food (as the caloric value of each gramme of fat is more than twice the caloric value of carbohydrates). *This is of importance when a highly nutritious diet is required (as in tuberculosis).*

In a diet of 3500 calories the respective amounts of three foodstuffs could be thus proportioned:

Proteid	Fat	Carbohydrates	Calories
120 grammes	165 grammes	350 grammes	3500
	or		
120 grammes	100 grammes	496 grammes	3500

6. MODIFICATIONS OF STANDARD DIET FOR HEALTHY TO SUIT THE NEEDS OF A TUBERCULOUS PATIENT.—*a. Increased total caloric value.*—This is made necessary by an increased dissemination of “heat” in tuberculosis. Bardswell and Chapman recommend increase of 30 per cent. in total caloric value of daily diet as compared with the diet for healthy. This principle can be followed if not contraindicated by certain conditions which become aggravated by overfeeding.

b. Increased amount of proteid.—Waste of tissue caused by tuberculosis necessitates, according to Bardswell and Chapman, an increase of 30 per cent. in the amount of proteid. For instance, a clerk, 100 lbs., gets a diet of *120 grammes of proteid*, 110 grammes of fat, and

250 grammes of carbohydrates, representing the total caloric value of 2540. The same clerk when afflicted with tuberculosis, 18 lbs. below his weight, with more or less extensive disease, gets, according to Bardswell and Chapman, 155 *grammes of proteid*, 160 of fat, and 275 of carbohydrates; total 3250 calories.

c. Amount of fat is of great importance in the treatment of tuberculosis. Should be administered in palatable form (in various kinds of food).

d. Importance of individualization.—Food palatable to various classes of people should be considered. Amounts consumed by various classes of people should also be taken into consideration. Condition of the tuberculous patient should be considered; state of nutrition, appetite, digestion, etc.

e. Stuffing should be avoided in all cases.—A liberal, properly constructed diet.

f. Meals should not be bulky.

g. Meals should be well cooked, varied, and well served.

h. Increase the diet used by the patient gradually, watching the appetite, digestion, general condition, etc.

i. Modify the diet in complications.—High fever: It may be necessary to give the patient a sufficient caloric value of food in fluids temporarily (milk, beef juice, raw eggs, etc.). The objection to solids does not exist, however, as in typhoid fever and other conditions. Solids gradually introduced frequently carry the patient successfully over the febrile period. Digestive disturbances: Special diet until disturbance subsides; then a gradual return for a more liberal dietary. Other complications require similar readjustment.

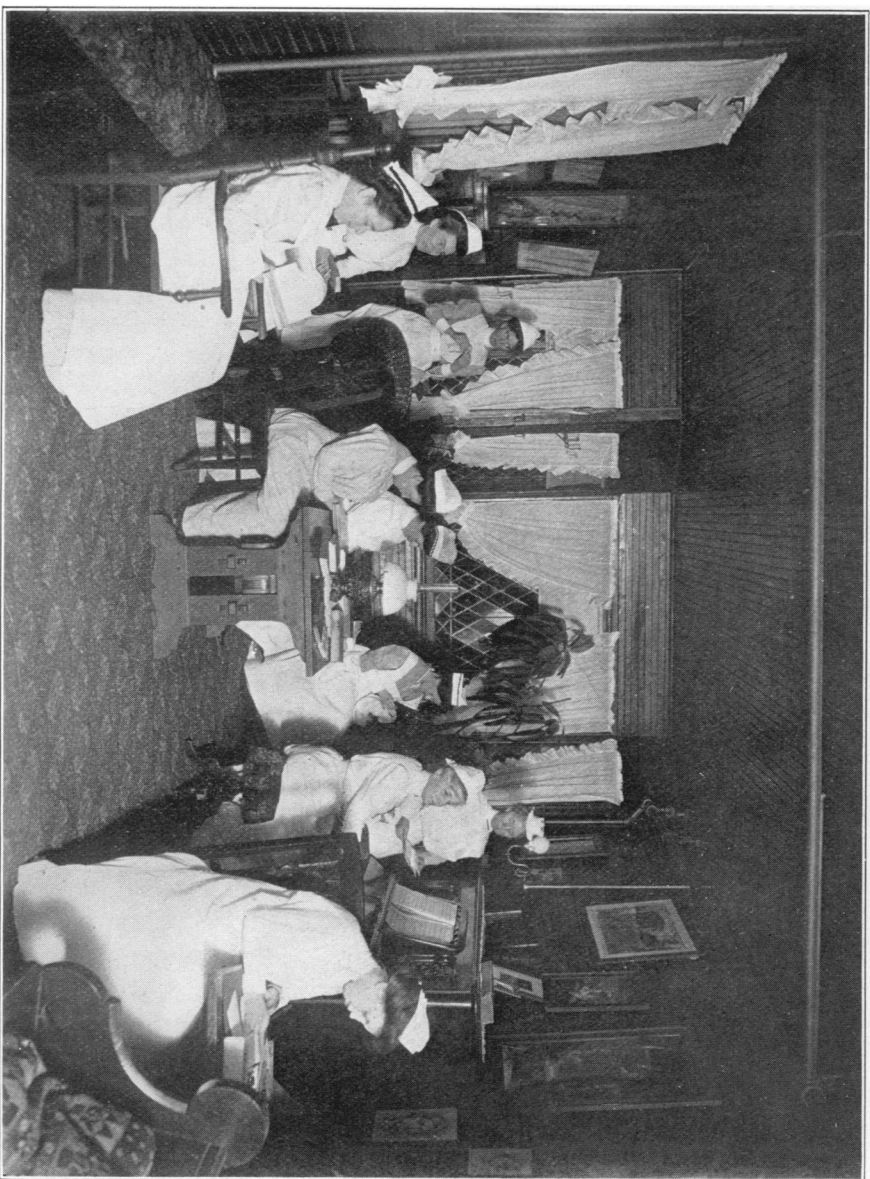
A liberal, properly constructed diet should be introduced gradually and continued until the state of nutrition becomes normal or above normal (slightly); then, if indicated, the dietary may be gradually reduced to the average nutritious diet of a healthy person.

ITEMS

THE Visiting Nurse Settlement of Orange, N. J., Honora Bouldin, R.N., Head Worker, sends the following interesting report of its work.

"The work and value of the Visiting Nurses' Settlement has greatly increased during the past three months, owing to the addition of various new branches of activity which not only increase the benefit conferred on the neighborhood, but add as well to the value of the experience afforded to the student nurses in training.

"A new branch office has been opened in a somewhat remote district,



SITTING ROOM, VISITING NURSE SETTLEMENT, ORANGE, N. J.



DIET KITCHEN, VISITING NURSE SETTLEMENT, ORANGE, N. J.

this has been placed in charge of the Assistant Head Worker who resides at the settlement and reports daily to the branch office which is the centre of her district. A settlement nurse has recently been appointed to attend clinics and operations at the Orthopædic Hospital and she follows up home treatment of clinic cases. The Metropolitan Insurance visiting nursing has also been established which adds about three hundred calls a month. It is a matter of great satisfaction to the settlement workers that all of this added work has come unsought by the settlement, a token of confidence in the value of its efforts after ten years of quiet service.

"The corps of nurses now includes Head Worker, Assistant Head Worker, Orthopædic Nurse, Night Nurse, and four graduate student nurses.

"A valuable course of lectures by Drs. J. K. Adams and E. N. Riggins on First Aid to the Injured has been given. A supplementary lecture on the home treatment of contagious cases is also promised from the superintendent of the Isolation Hospital. An interesting talk was given, in December, by Miss Gibbs, of New York, on diet for tuberculosis cases. A course of lessons given by the resident dietitian is open to student nurses, and a valuable talk was given by Mr. J. Scott McNutt, the Orange health officer, on how visiting nurses can best co-operate with the Board of Health."

A SOUTH SIDE SETTLEMENT HOUSE is to be established by the Woman's Charity Association, El Paso, Texas, H. Grace Franklin, R.N., Director. It is a two-story, ten-room building and will be occupied by the Charity Association as a basis for its Summer campaign work for the care of sick children, and as a day nursery for children of working mothers.

The school for mothers under Miss Franklin's direction is making great strides. The summer work will include a campaign against the typhoid fly, for they have discovered that the El Paso water supply was not the cause of the typhoid epidemic last autumn, but that the prevalence of the housefly undoubtedly caused a great deal of this illness.

IDA M. CANNON, Social Service Department, Massachusetts General Hospital, Boston, is planning for a reception and special meeting for nurses and social workers doing Hospital Social Service Work to be held in Boston, probably June 7, just before the National Conference of Charities and Corrections. All interested in this meeting and the problems of this special work are invited to write Miss Cannon.